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From: Chris Standen [C.Standen@econ.usyd.edu.au]  
Sent: Thursday, 16 January 2014 11:53 AM  
To: CVE Sch Civil & Env RCITI  
Cc: Stephen Greaves  
Subject: CAITR Abstract

Title: Using the logsum to measure accessibility benefits of new cycling infrastructure

Presenter: Chris Standen, PhD student, ITLS, University of Sydney

Abstract:

Appraisal of transport projects is typically based on forecast changes in mobility, especially increases in travel speeds/reductions in travel times. This approach favours road expansion, encourages sprawl, and undervalues more sustainable and cost-effective ways of improving people's access to employment, education and other activities - which should be the ultimate purpose of most passenger transport. It also ignores inequities amongst the population, notably between drivers and non-drivers. It is a particularly unsuitable approach for appraising cycling projects, since time spent cycling can have positive utility.

Appraising cycling projects based on changes in accessibility could lead to more effective and efficient allocation of scarce bicycle infrastructure funding, and a more sustainable transport/land-use system in general; however, this will require robust and validated methodologies for measuring and forecasting changes in accessibility, as well as consequential health, quality of life and equity benefits.

Existing methodologies for measuring accessibility tend to assume travel by public transport or private car. Previous efforts to measure bicycle accessibility have used estimations of generalised travel cost that are based only on travel distance/time, ignoring other barriers to cycling (e.g., fear of riding in traffic, topography) that may vary considerably amongst the population.

The ARC-funded Sydney Travel & Health Survey provides an opportunity to measure changes in accessibility and other quality of life indicators following construction of a new protected cycle path linking Sydney's CBD with South Sydney. Changes in accessibility will be measured using the utility/logsum method, using Revealed Preference data (travel diary & smartphone location tracking) obtained from Survey participants before and after construction.

Use of the disaggregate logsum measure takes into account population heterogeneity with regard to propensity to cycle, and allows accessibility benefits to be monetised. It also enables measurement of accessibility benefits for different population segments, e.g., no-car households, low-income.

CHRIS STANDEN

Institute of Transport & Logistics Studies | The University of Sydney Business School

THE UNIVERSITY OF SYDNEY

Room 1136, Level 11, St James Campus C13

173-175 Phillip St, Sydney NSW 2000

M +61 4 3177 6255 | T +61 2 9114 1738 | F +61 2 9114 1722

E c.standen@econ.usyd.edu.au | W <http://sydney.edu.au/business/itls>

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